101

HUMAN OPERATOR OR EXTERNAL
DEVICE TRIGGERS THE CAMERA

102

CAMERA CAPTURES A FRAME AND
PUTS IT INTO THE IMAGE BUFFER

103

FRAME NUMBER BUFFER IS
INCREMENTED BY ONE

104

GMT RECEIVER CAPTURES TIME AND
PUTS IT INTO THE TIME BUFFER

105

GPS RECEIVER CAPTURES THE LOCATION AND
PUTS IT INTO THE LOCATION BUFFER

106

CFLT (CAMERA, FRAME, LOCATION, TIME) ENCODER
CREATES ENCODING LAYERS FOR:
CAMERA ID, FRAME NUMBER, TIME, LOCATION

107

COMPOSITE ENCODER COMBINES
ALL ENCODING LAYERS, PRODUCES ENCODING

108

IMAGE ENCODER COMBINES
IMAGE AND ENCODING, PRODUCES ENCODED IMAGE

109

ENCRYPTER ENCRYPTS THE ENCODED IMAGE,
PRODUCES THE ENCRYPTED ENCODED IMAGE

110

LOCATION PROCESSOR COMPARES GPS LOCATION TO
LOOK-UP TABLE TO CONVERT SELECTED LOCATIONS
TO REFERENCE NAMES, LEAVE OTHER LOCATIONS
IN GPS FORMAT

111

ANNOTATOR OVERLAYS REFERENCE NAME OR LOCATION
AND TIME ONTO ENCRYPTED ENCODED IMAGE

112

RESULTANT IMAGE IS TRANSMITTED OR STORED

FIGURE 1

_201_

RESULTANT IMAGE IS OBTAINED
FROM CAMERA DOWNLOAD OR TRANSMISSION

_202_

ANNOTATION IS STRIPPED AND USED TO
SORT ON AND LABEL THE IMAGE FILE

_203_

RESULTANT IMAGE MINUS ANNOTATION
IS DECRYPTED

_204_

ENCODING FROM THE DECRYPTED IMAGE IS PRODUCED
BY USING KNOWLEDGE OF THE ENCODING ALGORITHMS AND
THE ENCODED INFORMATION (CFLT = CAMERA, FRAME, LOCATION, TIME)
OR BY MATCHING AGAINST ALL POSSIBLE COMBINATIONS
USING FLASHCORRELATION OR OTHER TECHNIQUE

_205_

IF ENCODING DOES NOT MATCH THE ANNOTATED INFORMATION
OR DOES NOT MATCH ANY POSSIBLE AUTHENTIC ENCODING
THEN THE IMAGE IS RULED TO BE NON-ORIGINAL

_206_

IF THE ENCODING DOES MATCH THE ANNOTATED INFORMATION
OR DOES MATCH A POSSIBLE AUTHENTIC ENCODING
THEN THE IMAGE IS RULED AN ORIGINAL

_207_

THE ENCODING IS REMOVED TO YIELD THE ORIGINAL IMAGE
DEPENDING ON THE TYPE OF ENCODING USED, THE ORIGINAL MAY NOW
HAVE VOIDS WHICH ARE FILLED USING STANDARD IMAGE PROCESSING TECHNIQUES
SUCH AS NEAREST NEIGHBOR APPROXIMATION TO PRODUCE THE
RESTORED ORIGINAL IMAGE

FIGURE 2

EVIDENTIARY IMAGING SUBSYSTEM

FIGURE 3

PIXELS ENLARGED FOR VISIBILITY
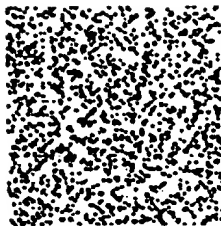
FIGURE 4a
ENCODING OF DATE/TIME
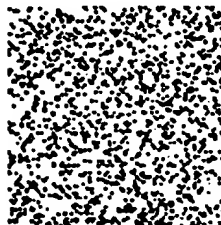
FIGURE 4b
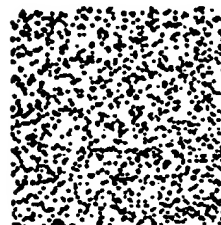ENCODING OF LOCATION

FIGURE 4c
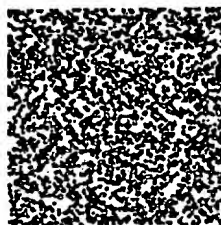ENCODING OF CAMERA ID

FIGURE 4d
ENCODING OF CAMERA FRAME

FIGURE 4e
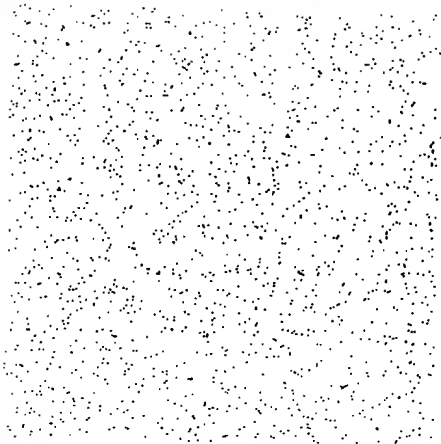COMPOSITE ENCODING
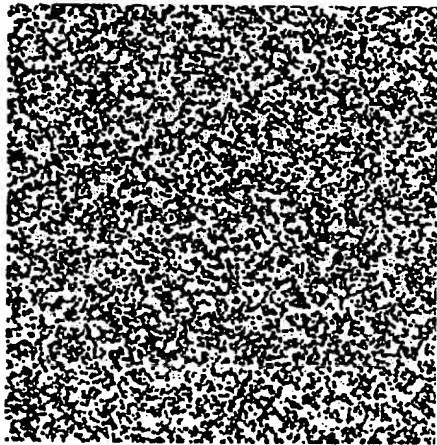
FIGURE 4

FIGURE 5a

CAPTURED IMAGE

FIGURE 5b
ENCODING

FIGURE 5c

ENCODING + IMAGE

SCRAMBLED ENCODED IMAGE

FIGURE 6a

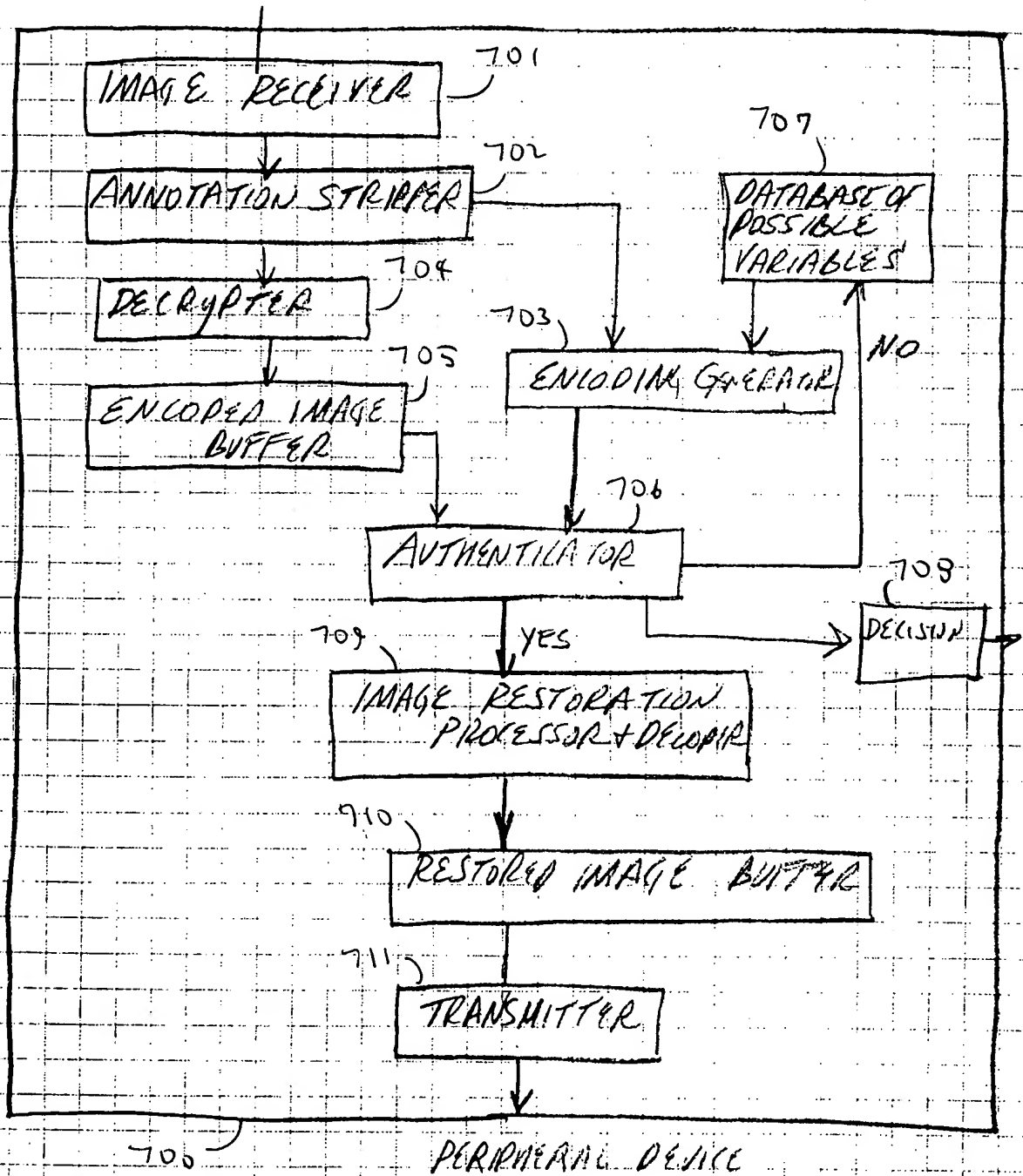**NYC IBM #23**
99/12/25/12/15/00

ANNOTATION
FIGURE 6b

FIGURE 6c
ANNOTATED SCRAMBLED
ENCODED IMAGE.

= RESULTANT IMAGE

NYC IBM #23
99/12/25/12/15/00

FIGURE 6

IMAGE RECEIVER 701

ANNOTATION STRIPPER 702

DECRYPTER 704

ENCODED IMAGE BUFFER 705

DATABASE OF POSSIBLE VARIABLES 707

ENCODING GENERATOR 703

NO

AUTHENTICATOR 706

DECISION 708

YES

IMAGE RESTORATION PROCESSOR + DECODER 709

RESTORED IMAGE BUFFER 910

TRANSMITTER 711

700

PERIPHERAL DEVICE

EVIDENTIARY IMAGE RECEIVING +
AUTHENTICATION SUBSYSTEM

FIGURE 7
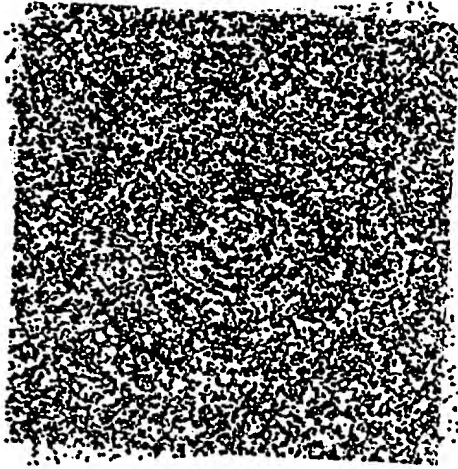
FIGURE 8a

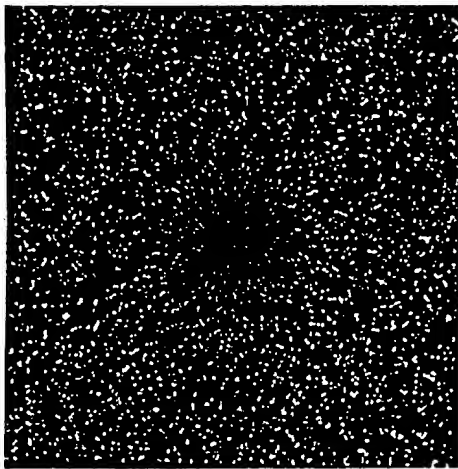DATE/TIME ENCODING
+/+ FlashCorrelated with the
ENCODED IMAGE

FIGURE 8b

DATE/TIME ENCODING
+/- FlashCorrelated with the
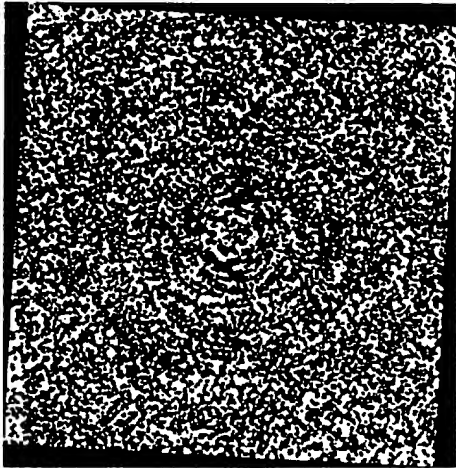ENCODED IMAGE

FIGURE 8

FIGURE 9a

DATE/TIME AND
LOCATION ENCODING
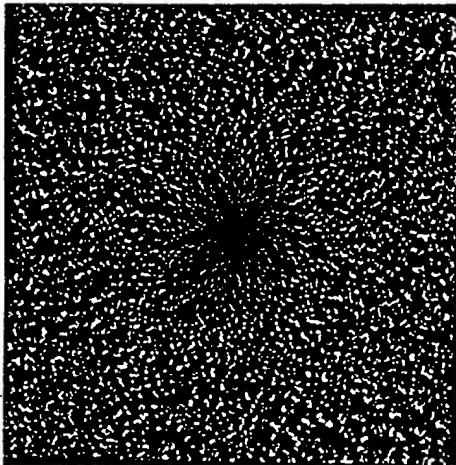+/+ FlashCorrelated with the
ENCODED IMAGE

FIGURE 9b

DATE/TIME AND
LOCATION ENCODING
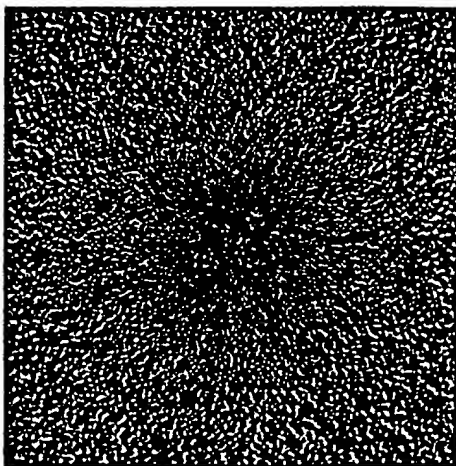+/- FlashCorrelated with the
ENCODED IMAGE

FIGURE 9c

DATE/TIME, LOCATION,
CAMERA ID, FRAME#
ENCODING -/- FC
WITH THE ENCODED IMAGE

FIGURE 9